Claims

What is claimed is:

1. An X-ray imaging system comprising:
   a. a video imager,
   b. a cable including:
      (1) a first end receiving a cable input signal from the video imager, and
      (2) a second end delivering a cable output signal, the cable output signal being different from the cable input signal;
   c. a cable length compensator including:
      (1) a first end receiving the cable output signal from the cable, and
      (2) a second end delivering a compensator output signal, the compensator output signal being substantially similar to the cable input signal.

2. The X-ray imaging system of claim 1 wherein the cable length compensator comprises:
      (1) a first path wherein the low frequency gain of the cable output signal is adjusted; and
      (2) a second path wherein the high frequency gain of the cable output signal is adjusted.

3. The X-ray imaging system of claim 1 wherein the cable length compensator comprises:
   a. A first path including a variable resistance between a first path input end and a first path output end;
   b. a second path extending between a second path input end and a second path output end, the second path including:

(1) a first variable resistance, and

(2) a parallel array of at least two capacitances; and

c. an output amplifier into which the output ends of the first and second paths are summed.

4. The X-ray imaging system of claim 3 wherein the cable length compensator comprises a second variable resistance in the second path, wherein the first variable resistance is continuously variable and the second variable resistance is discretely variable.

5. The X-ray imaging system of claim 4 wherein the cable length compensator comprises a cable connected to the output amplifier, wherein the second variable resistance may be selectively set to discrete resistance values which are proportional to the variation of the resistance of the cable with cable length.

6. The X-ray imaging system of claim 4 wherein the cable length compensator comprises at least two resistances, each resistance being situated in the parallel array in series with one capacitance.

7. The X-ray imaging system of claim 6 wherein the cable length compensator comprises a buffer separating the parallel array from the first and second variable resistances.

8. The X-ray imaging system of claim 3 wherein the cable length compensator comprises at least two resistances, each resistance being situated in the parallel array in series with one capacitance.

9. The X-ray imaging system of claim 8 wherein the second path of the cable length compensator provides high-pass filtering in conjunction with the output amplifier.

10. The X-ray imaging system of claim 8 wherein the cable length compensator comprises a buffer interposed between the first variable resistance and the parallel array.

11. The X-ray imaging system of claim 8 wherein the cable length compensator comprises a second variable resistance in the second path, wherein the first variable resistance is continuously variable and the second variable resistance is discretely variable.

12. A cable length compensator comprising:

a. a first path including an input end, an output end, and a means for adjusting low frequency gain therebetween;

b. a second path including an input end and an output end, and having therebetween:

(1) a means for adjusting high frequency gain;

(2) a variable resistance; and

(3) a parallel array of at least two capacitances;

c. an output amplifier into which the output ends of the first and second paths are summed.

13. The cable length compensator of claim 12 in combination with an X-ray imaging system including:

a. a video imager including a video output connection,

b. a cable leading from the video output connection to the input ends of the first and second paths of the cable length compensator,

wherein a signal delivered from the video imager at the video output connection is delivered in turn to the input ends of the cable length compensator and then to an output end of the output amplifier, and

wherein the signal at the output end of the output amplifier has substantially the same frequency profile as the signal delivered from the video

imager at the video output connection, but has a different frequency profile than the signal at the input ends of the cable length compensator.

14. The cable length compensator of claim 12 wherein the variable resistance is discretely variable.

15. The cable length compensator of claim 12 further comprising a cable connected to the output amplifier, wherein the variable resistance may be selectively set to resistance values which are proportional to the variation of the resistance of the cable with cable length.

16. The cable length compensator of claim 12 further comprising a buffer in the second path, wherein the parallel array is situated between the buffer and the output amplifier.

17. The cable length compensator of claim 12 further comprising at least two resistances, each resistance being situated in the parallel array in series with one capacitance.

18. The cable length compensator of claim 17 further comprising a buffer in the second path, wherein the parallel array is situated between the buffer and the output amplifier.

19. A X-ray imaging system comprising:

a. a video imager;

b. a cable connected to the video imager and receiving a video signal therefrom;

c. a cable length compensator connected to the cable and receiving a cable signal therefrom, the cable length compensator including:

(1) a first path wherein the low frequency gain of the cable signal is adjusted; and

(2) a second path wherein the high frequency gain of the cable signal is adjusted;

(3) an output end wherein the adjusted cable signals are received from the first and second path and combined into a compensator output signal;

wherein the compensator output signal has substantially the same frequency profile as the video signal, and has a frequency profile different from the cable signal.

20. The X-ray imaging system of claim 19 wherein:

a. the first path includes an input end which receives the cable signal, an output end, and a first path variable resistance therebetween;

b. a second path includes an input end which receives the cable signal and an output end, and has therebetween:

(1) a second path variable resistance; and

(2) a high-pass filter;

wherein the second path variable resistance may be set to resistance values proportional to the length of the cable.